CLAIMS

What is claimed is:

1. A network emulator for providing an emulated network,
5   said emulated network including a plurality of emulated
networking devices, comprising:
    a plurality of network node executable images, each one
of said network nodes corresponding to one of said plurality
of emulated networking devices; and
10   wherein each of said network node executable images
includes executable code that is operable to execute without
modification on a physical networking device corresponding
to one of said plurality of emulated networking devices, and
wherein said executable code within each of said network
15 node executable images that is operable to execute without
modification on a corresponding physical networking device
includes a program component operable to perform signaling
and routing.

20 2. The network emulator of claim 1, wherein said executable
code that is operable to execute without modification on
said one of said plurality of emulated networking devices is
operable to be executed within one of several cards that
make up said one of said plurality of emulated networking
25 devices.

3. The network emulator of claim 1, wherein said executable
code that is operable to execute without modification on
said one of said plurality of emulated networking devices
30 includes a program component operable to maintain a
representation of a topology of said emulated network.

4. The network emulator of claim 1, wherein said executable code that is operable to execute without modification on said one of said plurality of emulated networking devices

5   includes a program component operable to maintain at least one emulated trunk between a corresponding one of said plurality of emulated networking devices and an adjacent one of said plurality of emulated networking devices.

10   5. The network emulator of claim 1, wherein said executable code that is operable to execute without modification on said one of said plurality of emulated networking devices includes a program component operable to maintain at least one emulated virtual circuit between a corresponding one of

15   said plurality of emulated networking devices and another one of said plurality of emulated networking devices.

6. The network emulator of claim 1, wherein a plurality of said network node executable images execute on a single

20   emulator machine, wherein said emulator machine includes at least one processor and at least one memory.

7. The network emulator of claim 1, wherein each of said plurality of network node executable images executes on a

25   respective one of a plurality of emulator machines, each one of said plurality of emulator machines including at least one processor and at least one memory.

8. The network emulator of claim 7, wherein said plurality

30   of emulator machines are interconnected by a local area network.

9. The network emulator of claim 8, wherein said local area network is an Ethernet local area network.

5   10. The network emulator of claim 1, wherein at least one of said plurality of network node executable images executes on an associated plurality of emulator machines.

11. The network emulator of claim 1, wherein each of said
10 plurality of network node executable images further comprises:

a first protocol driver image operable to provide communications between said corresponding one of said plurality of emulated networking devices and other ones of
15 said plurality of emulated networking devices within said network emulator; and

a second protocol driver image operable to provide communications between a physical networking device of said physical networking device type associated with said
20 corresponding one of said plurality of emulated networking devices and other physical networking devices.

12. A method of providing an emulated network, said emulated network including a plurality of emulated networking
25 devices, comprising:

loading a plurality of network node executable images onto at least one emulator machine, each one of said network nodes corresponding to one of said plurality of emulated networking devices; and

30   wherein each of said network node executable images includes executable code that is operable to execute without

modification on a physical networking device corresponding
to one of said plurality of emulated networking devices, and
wherein said executable code within each of said network
node executable images that is operable to execute without
5   modification on a corresponding physical networking device
includes a program component operable to perform signaling
and routing.

13. The method of claim 12, wherein said executable code
10   that is operable to execute without modification on said one
of said plurality of emulated networking devices is operable
to be executed within one of several cards that make up said
one of said plurality of emulated networking devices.

15   14. The method of claim 12, further comprising maintaining,
by a program component within said executable code that is
operable to execute without modification on said one of said
plurality of emulated networking devices, a representation
of a topology of said emulated network.
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15. The method of claim 12, further comprising maintaining,
by a program component within said executable code that is
operable to execute without modification on said one of said
plurality of emulated networking devices, at least one
25   emulated trunk between a corresponding one of said plurality
of emulated networking devices and an adjacent one of said
plurality of emulated networking devices.

16. The method of claim 12, further comprising maintaining,
30   by a program component within said executable code that is
operable to execute without modification on said one of said

plurality of emulated networking devices, at least one
emulated circuit between a corresponding one of said
plurality of emulated networking devices and another one of
said plurality of emulated networking devices.

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17. The method of claim 12, further comprising executing a
plurality of said network node executable images execute on
a single one of said at least one emulator machine, wherein
said single emulator machine includes at least one processor

10   and at least one memory.

18. The method of claim 12, further comprising executing
each of said plurality of network node executable images
executes on a corresponding one of said at least one

15   emulator machine, said corresponding one of said at least
one emulator machine including at least one processor and at
least one memory.

19. The method of claim 18, further comprising communicating

20   among said plurality of emulator machines over a local area
network.

20. The method of claim 19, wherein said communicating
comprises communicating over an Ethernet local area network.

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21. The method of claim 12, further comprising executing at
least one of said plurality of network node executable
images executes on an associated plurality of said at least
one emulator machine.

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